

WHAT IS CLAIMED IS:

1. A process for producing a glass, which comprises the step of charging a glass raw material into the molten glass in a heated vessel to melt the glass raw material, wherein an oxidizing gas is bubbled in the molten glass and a glass raw material that behaves as a reducing agent during being melted is charged into a position of the bubbling.

2. The process of claim 1, wherein a metaphosphate compound is used as a glass raw material and a phosphate glass is melted.

3. The process of claim 2, wherein a fluorine compound is further used as a glass raw material, and a fluorophosphate glass is melted.

4. The process of claim 1, wherein a glass raw material charging rate and/or a molten glass withdrawal rate are controlled so that the depth of the molten glass in a position where the glass raw material is charged is adjusted to be 1.5 to 3 times as large as a distance between a glass raw material charging port and a liquid surface of the molten glass.

5. A process for producing a glass, which comprises the step of charging a glass raw material into a molten glass in a heated vessel to melt the glass raw material, wherein said vessel is filled with a dry ambient gas and while the ambient gas is allowed to flow to a liquid surface of the molten glass along an charging route of the glass raw material, the glass raw material is charged.

6. The process of claim 5, wherein a fluorine compound is used as a glass raw material, and a fluoride

glass is melted.

7. The process of claim 6, wherein a metaphosphate compound is used as a glass raw material, and a
5 fluorophosphate glass is melted.

8. The process of claim 5, wherein a boric acid compound is used as a glass raw material, and a boric-acid-containing glass is melted.

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9. The process of claim 5, wherein an oxidizing gas is bubbled in the molten glass and a glass raw material that behaves as a reducing agent during being melted is charged into a position of the bubbling.

10. A process for producing a phosphate glass, which comprises the step of charging a glass raw material into a molten glass in a heated vessel to melt the glass raw material, wherein an oxygen gas is bubbled in the molten glass and a raw material for the phosphate glass is charged into a position of the bubbling.

11. The process of claim 10, wherein a metaphosphate compound is used as a glass raw material and a phosphate
25 glass is melted.

12. The process of claim 10, wherein a fluorine compound is further used as a glass raw material, and a fluorophosphate glass is melted.

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13. The process of claim 10, wherein a glass raw material charging rate and/or a molten glass withdrawal rate are controlled so that the depth of the molten glass in a position where the glass raw material is charged is
35 adjusted to be 1.5 to 3 times as large as a distance between a glass raw material charging port and a liquid

surface of the molten glass.

14. A glass-melting apparatus for obtaining a molten glass by charging a glass raw material and heating the glass raw material to melt it, the apparatus comprising, as essential elements, a vessel for melting the glass raw material, an oxidizing gas supply port for supplying an oxidizing gas to a molten glass in the vessel, and a raw material charging port positioned above said oxidizing gas supply port, for charging the glass raw material.

15. The apparatus of claim 14, which has control mechanism for controlling a glass raw material charging rate and/or a molten glass withdrawal rate so that the depth of the molten glass in a position where the glass raw material is charged is adjusted to be 1.5 to 3 times as large as a distance between a glass raw material charging port and a liquid surface of the molten glass.

16. A glass-melting apparatus for obtaining a molten glass by charging a glass raw material and heating the glass raw material to melt it, the apparatus comprising, as essential elements, a vessel for heating and melting a glass raw material and for preserving an obtained molten glass, a raw material charging port provided in communication and contact with the vessel, an ambient gas supply port for supplying a dry ambient gas to fill the vessel therewith, and an ambient gas discharge outlet for discharging said ambient gas, the vessel having an inside that is divided to form an ambient gas passage that leads from the ambient gas supply port to a liquid surface of the molten glass along a glass raw material charging route and reaches the gas discharge outlet.

17. The apparatus of claim 16, which has a heating portion for heating the molten glass through a side surface

of the vessel having a cylindrical form, and a control mechanism for controlling a glass raw material charging rate and/or a molten glass withdrawal rate so that a height of liquid surface of the molten glass from a bottom of the vessel is 2.5 to 10 times the inner diameter of the vessel.

18. The apparatus of claim 16, which has an oxidizing gas supply port for supplying a dry oxidizing gas into the molten glass, the raw material charging port being provided above the oxidizing gas supply port.